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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,939	10/30/2003	Akihiro Miyauchi	520.43241X00	6291
20457 7590 03/29/2011 ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873				
EXAMINER HYUN, PAUL SANG HWA				
ART UNIT 1772		PAPER NUMBER		
MAIL DATE 03/29/2011		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/695,939

**Applicant(s)**

MIYAUCHI ET AL.

**Examiner**

PAUL S. HYUN

**Art Unit**

1772

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9, 11-13, 16, 27-31 and 33-36 is/are pending in the application.
- 4a) Of the above claim(s) 9, 16 and 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-13, 28-31 and 33-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 22, 2010 has been entered.

Claims 9, 11-13, 16, 27-31 and 33-36 are currently pending wherein claims 9, 16, 27 remain withdrawn pursuant to an election made by Applicant. In summary, claims 11-13, 28-31 and 33-36 are pending for examination on the merits.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim **13** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Amended claim 13 recites a biochip comprising micro pillars bearing one of antigens, sugar chains and bases wherein the micro pillars have a conical/tapered

shape. The originally filed Specification fails to provide support for the amendment. According to the Specification, the embodiment of the invention comprising micro pillars bearing one of antigens, sugar chains and bases is directed to a molecular filter (see pages 31-35 and Fig. 8). Because the micro pillars in this embodiment act as a filter, the diameter of each micro pillar remains constant throughout its length. The Specification does not disclose or suggest that the micro pillars can have the tapered/conical shape recited in claim 11.

***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims **11, 12, 28-31 and 33-36** are rejected under 35 U.S.C. 102(b) as being anticipated by Insley et al. (US 2001/0016985 A1).

Insley et al. disclose a microfluidic device comprising a channel network having a micro-structured surface (see Abstract). The device comprises a polymeric substrate 12 having a micro-structured surface 13 that is integral with substrate 12 (see [0012]), and a cover layer 20 disposed over substrate 12 such that the cover layer contacts the tips of the micro-structured surface (see Fig. 4). The micro-structures are conical in shape and can have a height ranging from 5-1200 microns (see [0044]). Because the micro-structures terminate at a point, the diameter of the micro-pillars must inherently fall within the claimed range, and the aspect ratio of the micro-structures must inherently exceed the value of 4 at the tip.

With respect to claims 12 and 29, Insley et al. disclose that the surface of the micro-structures can be modified (see [0068]).

With respect to claims 28, 33 and 34, the claims are product by process claims. "Even though product-by-process claims are limited by and defined by the process, the determination of patentability is based on the product itself. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." (*In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)). In this case, the micro-structures disclosed by Insley et al. comprise all the structural features recited in the claims.

With respect to claims 30 and 31, Insley et al. disclose a wide range of polymers from which the micro-structures can be made (see [0066]), many of which comprise the property recited in claims 30 and 31.

With respect to claims 35 and 36, the micro-structures disclosed by Insley et al. are formed from the same material as substrate 12 and integral with substrate 12 (see Fig. 4)

### ***Response to Arguments***

Applicant's arguments with respect to the claims have been considered but they are moot in view of the new ground of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL S. HYUN whose telephone number is (571)272-8559. The examiner can normally be reached on Monday-Friday 10AM-6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, In Suk Bullock can be reached on (571)-272-5954. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Paul S Hyun/  
Examiner, Art Unit 1772